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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,575

07/25/2003

Sigeo Homma

81940.0050

2969

24956

7590

06/06/2006

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
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SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

BRADLEY, MATTHEW A

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or process.

**Supplemental
Notice of Allowability**

Application No.

10/627,575

Examiner

Matthew Bradley

Applicant(s)

HOMMA ET AL.

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 12/15/05.
2. ☒ The allowed claim(s) is/are 1-51.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Examiner Note to Applicant

This supplemental Office Action has been issued to correct a deficiency found in the Examiner's Amendment in the Notice of Allowability mailed on 13 March 2006. The entire context of the action, including the corrected Examiner's Amendment which supercedes the Examiner's Amendment set forth in the previous Notice of Allowance, has been included for the convenience of the Applicant.

Response to Amendment

This Office Action has been issued in response to amendment filed 15 December 2005. Applicant's arguments have been carefully and fully considered in light of the instant amendment, and are persuasive.

Claim Status

Original claims 1-52 remain pending and are ready for examination.

Claim Rejections - 35 USC § 112

The 35 USC 112 2nd paragraph rejections set forth in the Office Action dated 27 October 2005 have been withdrawn in light of the instant amendment.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Stanger on 1 March 2006 and 2 March 2006.

The application has been amended as follows:

With respect to the claims dated 15 December 2005,

- Amend claim **1** as follows:
 - Line 13: Remove the first instance of "the"
 - Line 14: Insert --the-- before "data"
- Amend claim **12** as follows:
 - Line 13: Remove the first instance of "the"
 - Line 15: Insert --the-- before "data"
- Amend claim **19** as follows:
 - Line 11: Remove the first instance of "the"
 - Line 12: Insert --the-- before "data"
- Cancel independent claim **52**.

Allowable Subject Matter

Claims **1-51** are allowed.

The following is an Examiner's statement of reasons for allowance: the prior art made of record teaches a snapshot method, but fails to teach the combination including the limitation of:

(Claim **1**) "...and while said first and second storage regions are in said snap state, allows copying of data from the first storage region to the second storage region in response to a read instruction to read the data in the second storage region ...";

(Claim 12) "...that while said first and second storage regions are in said snap state, allows copying of data from the first storage region to the second storage region in response to a read instruction to read the data in the second storage region ...";

(Claim 19) "...and while said first and second storage regions are in said snap state, allows copying of data from the first storage region to the second storage region in response to a read instruction to read the data in the second storage region ...";

(Claim 25) "...and while said first and second storage regions are in said snap state, copying data from the first storage region to the second storage region in response to a read instruction from the computer to read the data in the second storage region ...";

(Claim 36) "...in response to a read instruction from a computer to read data in the second storage region, and while said first and second storage regions are in said snap state, copying the data from the first storage region to the second storage region ...";

(Claim 43) "...in the first control state, in response to a read instruction to read data in the second storage region, copying the data from the first storage region to the second storage region...";

(Claim 49) "...are snapped into a first snap state in which said first and second storage regions form a pair having a master-slave control relationship, and the first storage region and the second storage region are controlled with the snap state therebetween being dissolved in a second state ...and a second control mode which

dissolves the snap state after copying data in the first storage region to the second storage region.”

(Claim 50) “...are snapped into a first snap state in which said first and second storage regions form a pair having a master-slave control relationship, and the first storage region and the second storage region are controlled with the snap state therebetween being dissolved in a second state ...and a second control mode which dissolves the snap state after copying data in the first storage region to the second storage region.”

(Claim 51) “...and as control information for managing the snap state of a data status resulting from accesses to data in the first storage region with a data status resulting from accesses to data in the second storage region, and manages the first storage region and the second storage region that store the data.”

As dependent claims **2-11, 13-18, 20-24, 26-35, 37-42, and 44-48** depend from an allowable base claim; they are at least allowable for the same reasons as noted *supra*.

The prior art made of record, Micka et al (U.S. 6,189,079), neither anticipates nor renders obvious the above-recited combinations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Response to Arguments

Applicant's arguments filed 15 December 2005 have been carefully and fully considered, and are persuasive. As noted *supra* and with respect to the Examiner's Amendment the case is in condition for allowance.

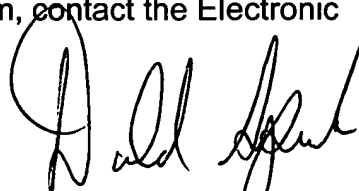
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAS/mb


DONALD SPARKS
SUPERVISORY PATENT EXAMINER